

REMARKS/ARGUMENTS

Claims 1, 3-7, 9-12 and 14-16 have been amended. Claims 2, 8 and 13 have been cancelled. Claims 17-19 are newly submitted. The specification has been amended to correct typographical errors. No new matter has been added. Accordingly, claims 1, 3-7, 9-12 and 14-19 remain pending. Reconsideration is respectfully requested in view of the amendments to the claims and the following remarks.

Pursuant to 37 CFR 1.136, Applicant petitions the Commissioner to extend the time for response for two month(s), from April 6, 2005 to June 6, 2005.

I. Title

The title of the invention has been cited as "not descriptive." The title has been amended to read "Method and Apparatus For Reducing Power Consumption In A Power Supply." Applicant respectfully submits that the new title is descriptive of the invention.

II. The § 112 Rejections

Claims 1-16 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The claims have been amended to overcome the indefiniteness rejection.

III. The § 102/103 RejectionsClaims 1-4

Claims 1-4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over JP Patent No. 2000-308357 ("Kono") in view of U.S. Patent No. 6,294,904 ("Hirst").

Claim 1, as amended, recites an AC adaptor that is connectable to a main body of an apparatus through a power line. The AC adaptor includes a plug to connect the power line to the main body of an apparatus. The plug comprises an operating section that provides a control signal through a control line to an operating frequency control unit to switch a prescribed

operating frequency from a second operating frequency to a first operating frequency when the plug is connected to the main body of the apparatus.

A. Kono Fails to Disclose A Plug Comprising An Operating Section Of The Kind

Recited In Claim 1

Kono discloses a power circuit that completely suspends current supply to a load when the load is in a standby condition (see paragraphs 1, 5, 14). The Examiner recognizes that Kono fails to disclose a second operating frequency. Kono, therefore, fails to disclose a plug comprising an operating section that provides a control signal through a control line to an operating frequency control unit to switch a prescribed operating frequency from a second operating frequency to a first operating frequency when the plug is connected to the main body of the apparatus, as recited in claim 1.

B. Hirst Fails to Disclose A Plug Comprising An Operating Section Of The Kind

Recited In Claim 1

Hirst discloses a laser printer that includes a built-in AC-DC power supply (col. 3, lines 51-59; Fig. 1). Hirst, therefore, does not require a plug to connect the AC-DC power supply to the laser printer. Consequently, Hirst also fails to teach or suggest a plug comprising an operating section as recited in claim 1.

C. The Claim Has Limitations Not Taught By Either Reference

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970) (emphasis added). “[T]he examiner bears the initial burden, on review of the prior art or on any other

ground, of presenting a *prima facie* case of unpatentability. . . . If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent." *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

Both Kono and Hirst fail to disclose a plug comprising an operating section that provides a control signal through a control line to an operating frequency control unit to switch a prescribed operating frequency from a second operating frequency to a first operating frequency when the plug is connected to the main body of the apparatus. Consequently, the combination of Kono and Hirst cannot render claim 1 obvious, and the Examiner has not made a *prima facie* showing of obviousness.

D. *Proposed Combination Would Change Principle Of Operation Of Kono*

Additionally, "[i]f [a] proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

As described above, Kono discloses a power supply that completely suspends current supply to a load when the load is in a standby condition (emphasis added).

Applicant submits that if Kono were modified to include a second oscillating frequency that is lower than oscillation frequency f_1 (paragraph 2), the modification would alter a principle of operation of Kono's power supply – which is to completely suspend current supply to a load when the load is in a standby condition. For at least these reasons, claim 1 is allowable over Kono and Hirst.

Claims 2-4 depend from claim 1 and are allowable over Kono and Hirst for reasons corresponding to those set forth with respect to claim 1.

Claims 5-16

Claims 5-10 and 14-16 were rejected under 35 U.S.C. § 102(a) as being anticipated by Hirst.

Claims 11-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hirst in view of U.S. Patent No. 6,294,904 ("Nagai").

Claims 5, 11, 14 and 17 have been amended to include limitations similar to those of claim 1.

As discussed above Hirst fails to disclose a plug comprising an operating section that provides a control signal through a control line to an operating frequency control unit to switch a prescribed operating frequency from a second operating frequency to a first operating frequency when the plug is connected to the main body of the apparatus.

E. Nagai Fails to Disclose A Plug Comprising An Operating Section Of The Kind Recited In Claims 5, 11, 14 and 17

Nagai discloses a power supply circuit (see Abstract). The power supply circuit includes a detecting unit that detects whether an electronic apparatus has been connected or not to the power supply circuit. If the power supply circuit has not been connected then a switching device X operates according to the output of oscillator O1, and if the power supply is connected then the switching device X operates according to the output of oscillator O2 (col. 3, ll. 19-31). Nagai, however, fails to disclose that the detecting unit is located within a plug that connects the power supply circuit to the electronic apparatus. Instead, Nagai is silent as to the location of the detecting unit. Nagai, therefore, fails to disclose a plug having an operating section of the kind recited in claims 5, 11 and 14.

Claims 5, 11 and 14 (and the claims that depend therefrom) are therefore allowable over Hirst and Nagai, either alone or in combination.

Claim 9 recites a voltage supply apparatus that includes a plug to connect the DC voltage supply to a main body of an electrical device. The main body of the electrical device includes control circuitry operable to shift an operating frequency supplied by an operating frequency supplying unit to a second operating frequency when the main body of the electrical device is operating in a standby state even if the DC voltage supply is connected to the main body of the electrical device.

As discussed above, Hirst discloses a laser printer that includes a built-in AC-DC power supply. Hirst, therefore, fails to teach or suggest a plug to connect the AC-DC power supply to the laser printer. Hirst, therefore, cannot anticipate claim 9, or the claims that depend therefrom.

Claim 17 recites an AC adaptor that includes a plug to connect a power supply to a main body of an apparatus. The plug provides a control signal through a control line to an operating frequency control unit for switching a prescribed operating frequency from a second operating frequency to a first operating frequency when the plug end is inserted to a jack (associated with the main body) and switching the prescribed operating frequency from the first operating frequency to the second operating frequency when the plug end is detached from the jack.

None of the cited references disclose an AC adaptor that includes a jack as recited in claim 17. For at least these reasons, claim 17 and the claims that depend therefrom are allowable over the cited references.

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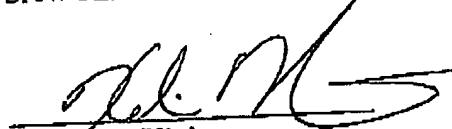
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Attorney Docket: JP920000429US1/3612P

In view of the foregoing, it is submitted that the claims 1, 3-7, 9-12 and 14-19 are allowable over the cited references and are in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicants' attorney at the telephone number indicated below.

Respectfully submitted,
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